Dillwynia glaucula (Fabaceae: Mirbelieae), a new species from the Southern Tablelands, New South Wales

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Abstract

Jobson, Peter C.[1,2] and Weston, Peter H.[1] ([1]National Herbarium of New South Wales, Royal Botanic Gardens, Sydney, NSW 2000, Australia, [2]Dept. of Environmental Sciences, University of Technology, Sydney, Gore Hill, NSW 2065, Australia) 1998. Dillwynia glaucula *(Fabaceae: Mirbelieae), a new species from the Southern Tablelands, New South Wales.* Telopea *8(1): 1–5.* **Dillwynia glaucula** Jobson & P.H. Weston, a new species from the Southern Tablelands of New South Wales is described and its affinity with *Dillwynia sericea* is discussed, along with its ecology, distribution and conservation status.

Introduction

In 1996, a specimen of an unknown *Dillwynia* was submitted to the Herbarium for identification and was identified as a glabrous form of *Dillwynia sericea* A.Cunn. While conducting fieldwork in October 1997, as part of the revision of *Dillwynia* for *Flora of Australia*, we examined this plant *in situ*, discovering a localised but dense population interspersed with *D. sericea*. This population proved to be distinct from *D. sericea* in a number of morphological characters, in habit and in its preferred habitat. We describe this new species below, along with its ecology, and assess its conservation status.

Taxonomy

Dillwynia glaucula *Jobson & P.H. Weston*, **sp. nov.**

D. sericeae A. Cunn. affinis sed usque ad 2.3 m alta crescens; rami ramulique omnino glabri; folia glaucescentia, omnino glabra; inflorescentia axillaris; calyx omnino glaber; fructus pubescentes, rubiginosi.

Holotype: New South Wales: Southern Tablelands: N side of Claypit Rd, 1.6 km SW from Nerriga Road junction (Junction is 8 km S of Windellama), 35°05'43"S 149°52'29"E, *P.C. Jobson 5103 & P.H. Weston*, 20 Oct 1997 (NSW). Isotypes: CANB, K, MEL, MO.

Erect shrub (0.2–)0.75–2.3 m high; taproot present and lacking lignotuber; bark smooth, red-brown with conspicuous cream lenticels. Branches and branchlets smooth, red-brown and entirely glabrous. Leaves spreading to reflexed, rarely loosely appressed, linear, triquetrous, occasionally slightly twisted, glabrous, minutely colliculate, young leaves glaucous, becoming bluish-green to green with age; petiole c. 0.5 mm long; lamina with a longitudinal adaxial groove, 4–7 mm long, c.0.5 mm wide, apex obtuse, often with an incurved tip; stipules absent. Inflorescences axillary, often in upper axils of stem, 1-flowered. Peduncles 2.0–2.5 mm long; bracts ovate to broad-ovate, 0.5–1.0 mm long, entire, cucullate, red–brown, ciliate with white hairs in upper portion of margin; bracteoles ovate, c. 1 mm long, entire, yellow to brown,

ciliate with white, straight to crisped hairs on upper portion of margin, attached to pedicel 0.25–0.75 mm below calyx tube. Buds green with cucullate upper calyx lobes. Calyx 10-ribbed, green, 3.5–6.0 mm long; calyx tube turbinate; lobes shorter than tube, lower lobes broadly acute, upper lobes v-shaped notched, divergent, margins ciliate with white hairs. Standard with lamina reniform with a deep v-notch separating lobes and basal oblong claw; lamina 4.5–5.5 mm long, 9.0–11.0 mm wide; lobes obovate, yellow with narrow red band (crescent) above claw; claw yellow-green, 4.0–5.0 mm long, 2.0 mm wide. Wings narrow-obovate, partially obscuring keel, cucullate, obtuse, auriculate on lower margin near base and clawed, yellow, 6.0–7.0 mm long, 1.5–2.0 mm wide; claw 1.0–1.5 mm long, c. 0.75 mm wide. Keel longitudinally broad-ovate, cymbicate, acute, red, 4.0–5.0 mm long, 2.0–3.0 mm wide; upper margin papillate; claw c.1 mm long. Stamens with filaments 2.0–4.0 mm long; anthers 0.5–0.75 mm long. Gynoecium c. 4 mm long; ovary white-pubescent, c.1.5 mm long; stipe glabrous c. 0.5 mm long; style hooked, glabrous, c. 2 mm long; stigma capitate. Pod ovoid, turgid, red-brown, pubescent with white hairs chiefly towards apex, 4.0–5.5 mm long, 3.0–4.0 mm wide; petals caducous during late development of pod. Seeds ovoid, smooth, black to dark olive with dark brown spots; aril cream, c. 2 mm long. (Fig. 1).

Phenology: flowers mainly in October but sporadic to January; fruits have been collected from November to January.

Distribution: known from three areas, near Windellama, Michelago and Numeralla, New South Wales. (Fig. 2).

Habitat: the Windellama populations of *D. glaucula* occur in dry sclerophyll woodlands dominated by *Eucalyptus rossii, E. macrorhyncha, E. pauciflora* and *E. gregsoniana,* with either a grassy or shrubby understorey on white kaolin-type clays. Most of the southern (Michelago and Numeralla) populations occur in woodlands dominated by *E. rossii, E. nortonii* and *E. dives* with a shrubby understorey. At one site, the remnant roadside vegetation is open and shrubby, with *Callitris endlicheri, Cassinia aculeata, C.* sp. aff. *quinquefaria, Bossiaea riparia, Chrysocephalum* sp., *Wahlenbergia* sp., *Sanguisorba minor* and various grasses. All southern populations occur on either rocky sandstone hill tops or slaty outcrops. The altitudinal range of this species is between 580 m and 840 m.

Conservation status: prior to 1997, this species had only been collected three times. It should be considered vulnerable (3V coding of Briggs & Leigh, 1996) as it does not occur in any known reserve. Most populations are known from roadside reserves and are potentially threatened by the widening of these roads. At one locality (*Jobson 5384*), the remaining plant in the area had been heavily grazed, as had most of the understorey vegetation. Although there has been clay mining in the Windellama area in the past, the pit on Claypit Road appears to be disused.

Etymology: the epithet *glaucula* is from the Latin *glaucus* meaning 'bluish-green' and *-ula* which is a diminutive suffix and refers to the blue-green colour of the leaves, especially observed in the young leaves of the plant, and which tends to fade with age.

Notes: *Dillwynia glaucula* most closely resembles *D. sericea.* In the key of Weston (1991), *D. glaucula* keys out unsatisfactorily to either *D.* sp. *C.* or *D. sericea. Dillwynia* sp. *C* is confined to the sandstone escarpments and cliff tops of the Budawang Ranges and differs from *D. glaucula* in having larger, more robust leaves and larger flowers. *Dillwynia glaucula* can be distinguished from *D. sericea* by its completely glabrous calyx, leaves and new shoots (silky hairy in *D. sericea*) and by the blue-green tinge of the leaves (dull green in *D. sericea*). In the Windellama area, *D. sericea* is sympatric but is much smaller in stature (up to 1 m tall) than *D. glaucula* and has far less branching. *Dillwynia glaucula* occurs there on a kaolin clay lens (often only a few metres in area)

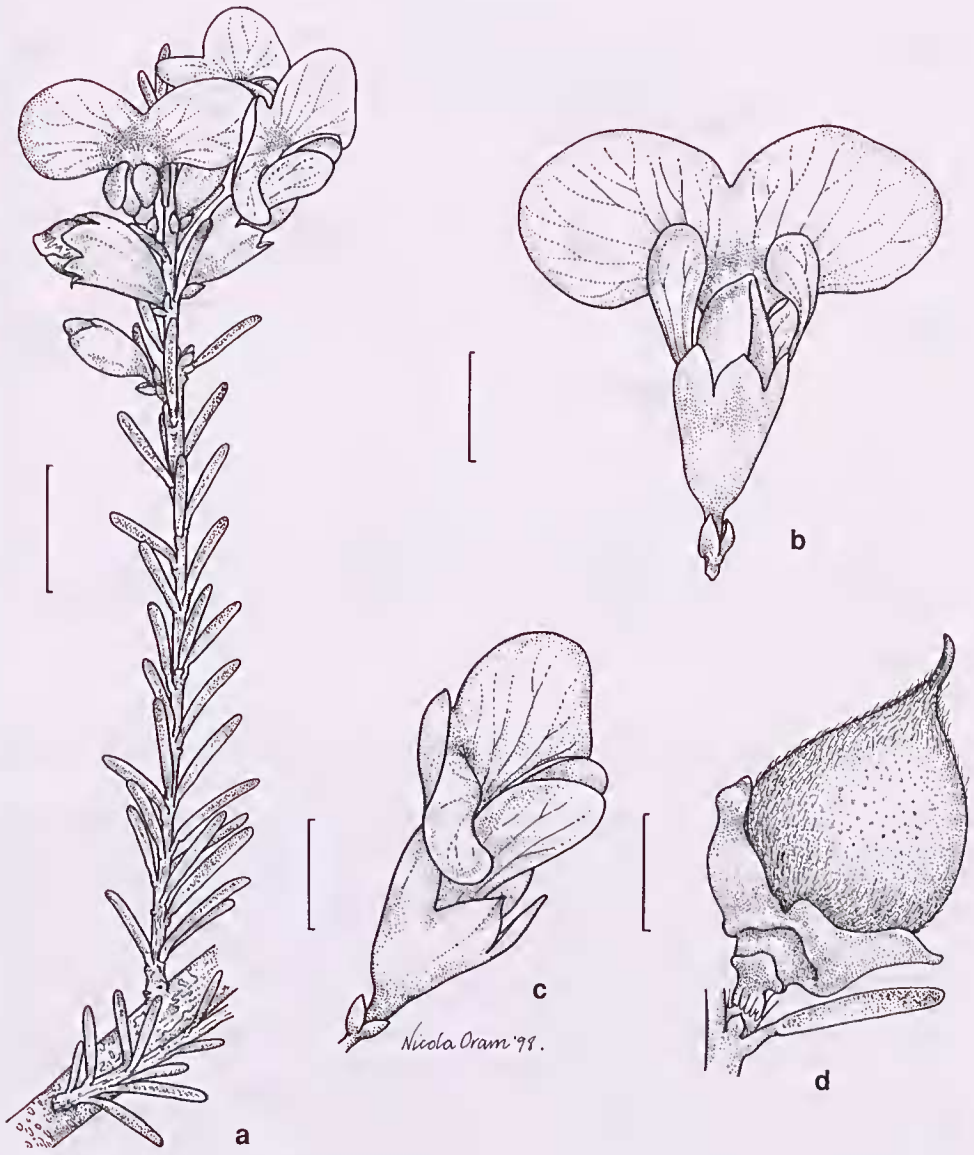

Fig. 1. *Dillwynia glaucula.* **a**, habit; **b**, front view of flower; **c**, side view of flower; **d**, pod (all from *Jobson 5103 & Weston*). Scale bars: a = 5 mm; b, c = 3 mm; d = 2 mm.

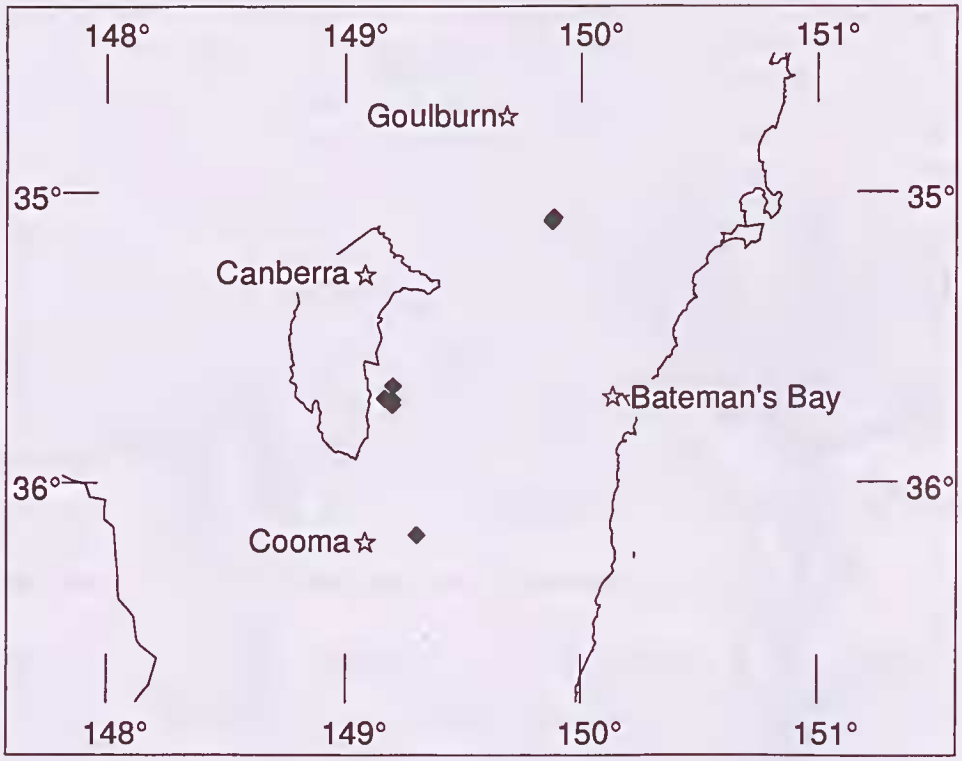

Fig. 2. Distribution of *Dillwynia glaucula*.

that outcrops on the summits of small hills, with *D. sericea* occurring nearby on the slopes of the same hill on soils derived from metasediments.

Specimens examined: New South Wales: Southern Tablelands: Cnr. of Claypit and Nerriga Rds, 8 km S of Windellama, 35°05'21"S 149°53'05"E, *P.C. Jobson 5095 & P.H. Weston*, 20 Oct 1997 (fl.)(NSW, NSW Ref. Coll., AD, BRI,), *P.C. Jobson 5333 & B.M. Wiecek*, 21 Nov 1997 (fr.)(NSW, CANB), *T. Hayes* s.n., Jan 1996 (fr.) (NSW); E side of Claypit Rd, 2.2 km from Nerriga Rd junction, 35°06'05"S 149°52'39"E, *P.C. Jobson 5105 & P.H. Weston*, 20 Oct 1997 (fl.)(NSW); N side of Claypit Rd, 2.5 km from Nerriga Rd junction, 35°06'12"S 149°52'36"E, *P.C. Jobson 5106 & P.H. Weston*, 20 Oct 1997 (fl.)(NSW); 3.75 miles [6.0 km] from Michelago on Michelago – Queanbeyan Rd, 35°44'S 149°12'E, *C.W.E. Moore 1657*, 20 May 1952 (fr.) (CANB); 200–300 m E of Michelago – Queanbeyan Rd, 6.3 km NNE of Michelago store, 35°40'12"S 149°12'09"E, *P.C. Jobson 5382 & P.H. Weston*, 20 Jan 1998 (old fl.) (NSW); c. 2 km E of Michelago of the Canberra – Cooma Road, 35°43'S 149°12'E, *R. Pullen 11,050*, 3 Jan 1982 (fl. & fr.) (CANB, AD, PERTH); N side of Michelago – Queanbeyan Rd, 1.0 km E of Michelago store, 35°42'44"S 149°10'06"E, *P.C. Jobson 5386 & P.H. Weston*, 20 Jan 1998 (fr.) (NSW, MEL), *P.C. Jobson 5389 & P.H. Weston*, 20 Jan 1998 (fl.)(NSW); 4 km WSW by road from Numeralla towards Cooma, 36°11'00"S 149°18'15"E, *D.E. Albrecht 2244*, 15 Oct 1985 (fl.) (MEL).

Acknowledgments

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